

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-42 (canceled).

Claim 43 (new): A hydrogen occluding material in a form of a fine powder capable of hydrogenation and/or dehydrogenation of hydrogen molecules or hydrogen atoms at about 200°C or below and under adequate control of pressure, said hydrogen occluding material comprising:

an aluminum hydride having a formula AlH_x , where $0 \leq x \leq 3$; and

a dopant functioning as a catalyst, wherein:

the dopant is present on a surface of the aluminum hydride and includes at least one species selected from the group consisting of transition metals belonging to groups III to V of the periodic table,

an amount of the dopant ranges from about 0.2 mol% to about 10 mol% of an amount of the aluminum hydride, and

the hydrogen occluding material is capable of releasing greater than 5.6 weight % hydrogen.

Claim 44 (new): The hydrogen occluding material according to claim 43, wherein the dopant is titanium.

Claim 45 (new): The hydrogen occluding material according to claim 43, wherein the amount of dopant ranges from about 1 mol% to about 5 mol%.

Claim 46 (new): The hydrogen occluding material according to claim 43, wherein the aluminum hydride is AlH_3 .

Claim 47 (new): A method for releasing hydrogen gas using a hydrogen occluding material in a form of a fine powder, wherein the hydrogen occluding material comprises an aluminum hydride and a dopant functioning as a catalyst, the method comprising thermally decomposing the aluminum hydride having a formula AlH_x , where $0 \leq x \leq 3$, under adequate control of pressure by heating the hydrogen occluding material to a temperature of greater than 100°C and less than or equal to 200°C , wherein:

the dopant includes at least one species selected from the group consisting of transition metals belonging to groups III to V of the periodic table,

an amount of the dopant ranges from about 0.2 mol% to about 10 mol% of an amount of the aluminum hydride, and

the aluminum hydride has a hydrogen storage capacity greater than an alanate.

Claim 48 (new): The method according to claim 47, wherein the hydrogen occluding material releases greater than 5.6 weight % hydrogen in one stage.

Claim 49 (new): The method according to claim 47, wherein the dopant is titanium.

Claim 50 (new): The method according to claim 47, wherein the amount of dopant ranges from about 1 mol% to about 5 mol%.

Claim 51 (new): The method according to claim 47, wherein the aluminum hydride is AlH_3 .